

DSM Nutritional Products (UK)

Case Study: Commended in the Management (Large) Category



DSM Nutritional Products (UK) Limited is a global Life Sciences and Materials Sciences company and the Vitamin production plant located at Dalry is part of DSM Nutritional Products, which supplies three sectors - Animal Nutrition & Health, Human Nutrition & Health and Personal Care & Aroma Ingredients. Their Brighter Living Solutions program drives products and innovations that are better for people and the planet.

The VIBES Management Award recognises businesses whose management systems deliver continuous improvement in environmental performance. The category is aimed at businesses that are taking a holistic approach to environmental improvement and can demonstrate the associated economic and social benefits that have been achieved. The judges were impressed with the commitment to sustainability and felt that DSM were a good example of a company going beyond compliance.



DSM has a three year strategy – people, planet, profit, developed from 2015-2018 and a recent strategy to 2020 which includes sustainability aspects. The Sustainability objectives are site specific and included in job descriptions.

Highlights

- Targeted investment at the site to improve Sustainability £300K p.a. saving for a solvent recovery column
- Energy efficiency increased by 53%
- Greenhouse Gases reduced by 63%
- 99% diversion of waste from landfill in 2016
- 32% reduction in water consumption
- Specific Sustainability objectives are included in site and personal targets

DSM developed three work streams to address sustainability within the site;

- Emissions to air
- Energy efficiency and greenhouse gas reduction

Their targets include:

- 30% reduction in GHG by 2030 (from a 2015 baseline)
- 90% recycling of waste by 2020
- Emissions to water, waste reduction and water conservation.
- Reduce energy by 1%/year to 2025
- Reduce VOC emissions by further 50% by 2020 (strategy for near zero VOCs)

The judges felt it was clear that the company had invested significantly to improve the facility at Dalry, which had achieved quantifiable environmental and economic benefits. The global target for DSM to reduce VOCs to near zero – a company driver not a regulatory driver. DSM made a £10m investment in VOC reduction. DSM also invested in an ethanol dehydration installation – capital cost £1m saving 19,500 Mwh and £370,000p/a.

The company identified that they were compliant with licence requirements for VOCs and COD and are going beyond compliance with projects initiated. The majority of DSM's waste is process waste and opportunities to recover this waste have been made – a good example is provided from recovering VOC's; optimization of hexane recovery and reuse in process; use of calcium sulphate for fertiliser.



Other environmental benefits include:

- Reduced energy use on site by 35% since 2011
- Boiler upgrade reducing 8,000 CO2t/year
- Improvements in energy efficiency boiler upgrading ongoing to improve efficiency by 4% which will extend lifespan by 10 years
- Methanol upgrade – reducing 8,000 CO2t/yr
- Methanol recovery plan for another 34% reduction by 2021 (reducing from 0.92 to <0.5 kg/kg)
- Water reduction – maximizing efficiency of borehole water saved 520m3/day.

Over the past 10 years, for each tonne of product there has been a 50% reduction in energy usage.

Sustainability is seen as a driver of growth in the business and as a differentiator in the sector. It is used to strengthen their brand.

We are proud to have been recognised at this year's VIBES – Scottish Environment Business Awards in the Management Large category. Receiving a commendation is a real testament to the hard work and commitment from everyone on the Dalry Site, the home of Quali®-C, DSM's vitamin C that holds the highest standards for sustainability, quality, reliability and traceability, to reduce our impact on the environment.

The Awards are a fantastic way to find out about what other businesses are doing and share best practice amongst a like-minded community that too want to improve their operations while benefitting the environment and it is hoped that others are inspired to follow suit.

- Andrew Mitchell, Operational Support Manager at DSM Nutritional Products (UK) Ltd